No. 648,279. Patented Apr. 24, 1900.

J. McCARTNEY, Dec'd.

H. McCARTNEY, Executrix.

MEANS FOR HANDLING REFUSE.

(Application filed July 5, 1899.)

(No Model.) 4 Sheets—Sheet 1.

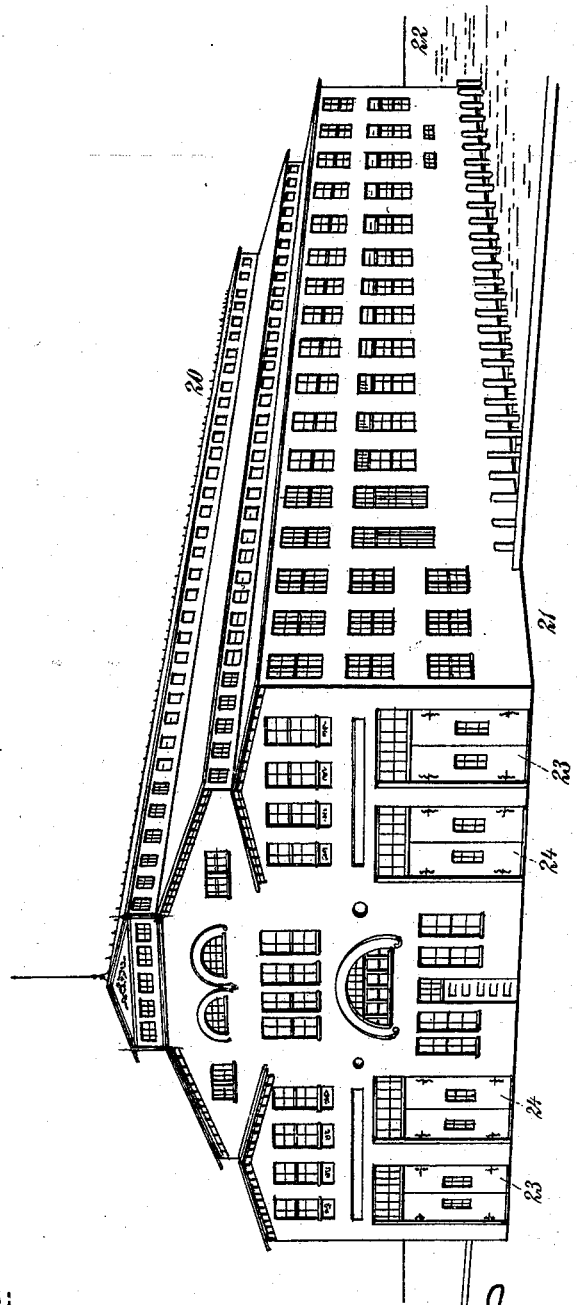

Fig. 1.

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(No Model.) 4 Sheets—Sheet 2.

Fig. 4.

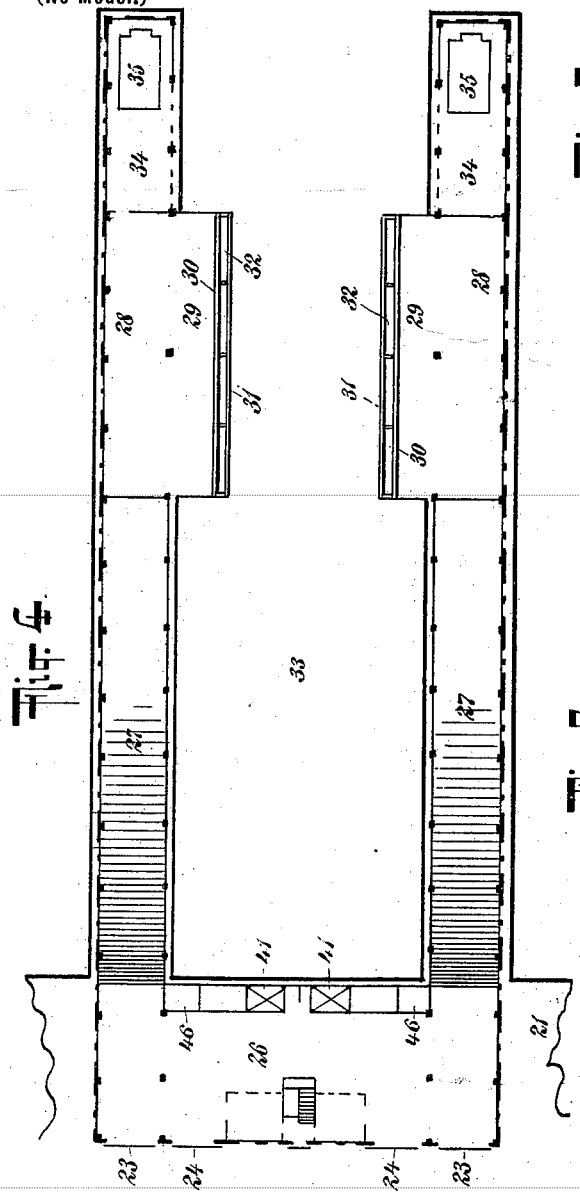


Fig. 3.

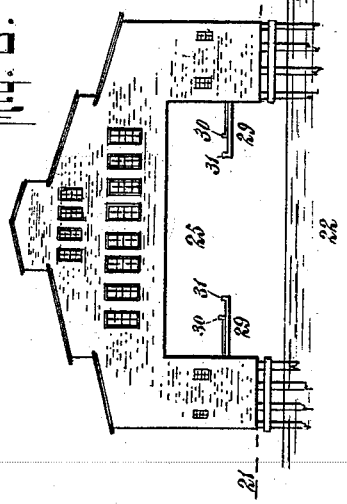
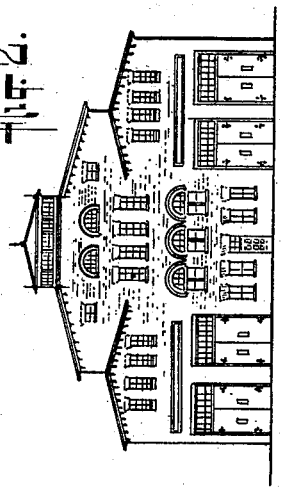


Fig. 2.



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(No Model.) 4 Sheets—Sheet 3.

Fig. 5.

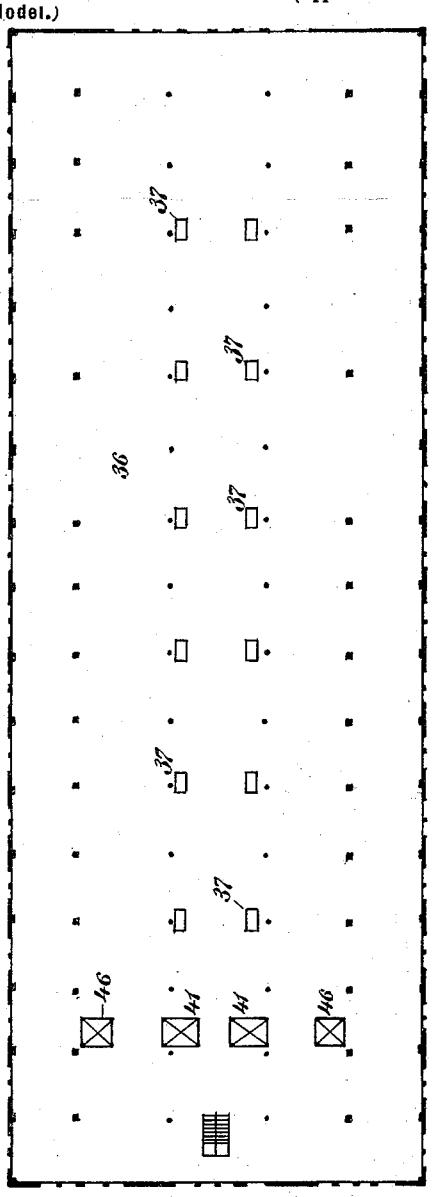
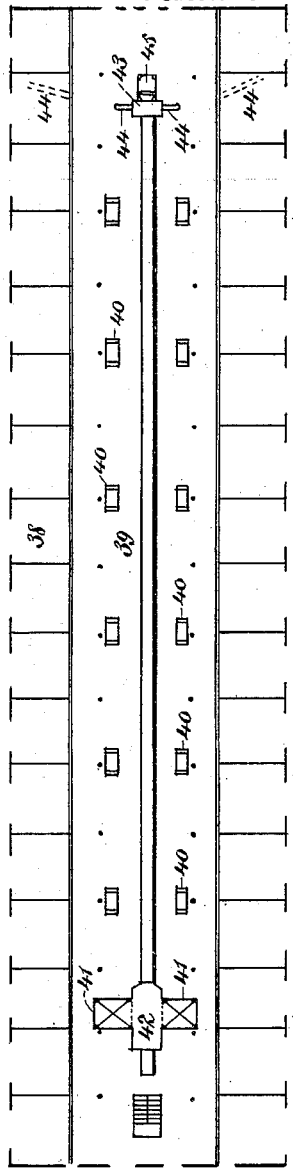


Fig. 6.



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(No Model.) 4 Sheets—Sheet 4.

Fig. 7.

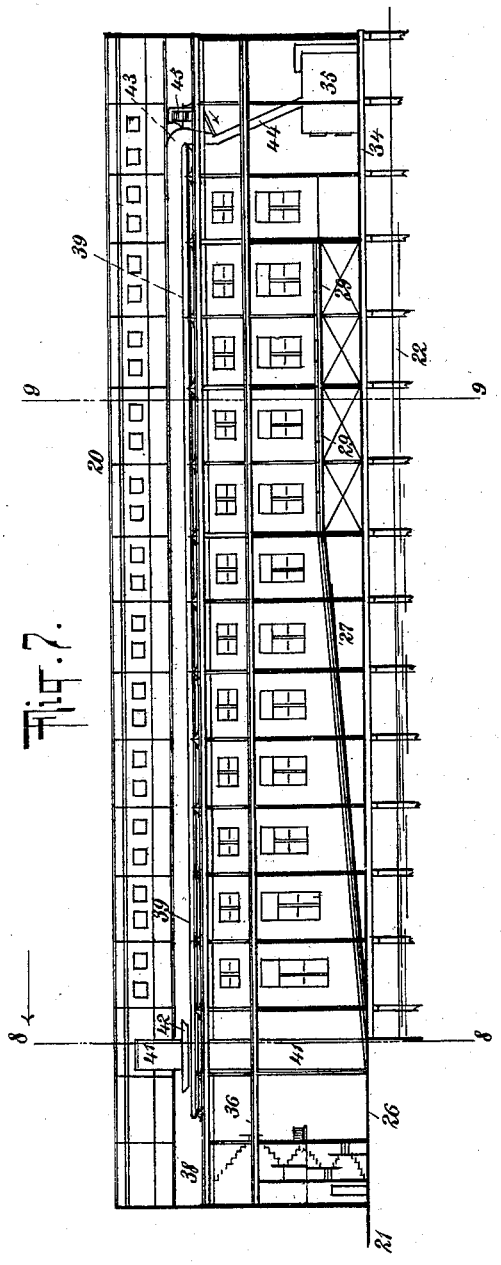


Fig. 5.

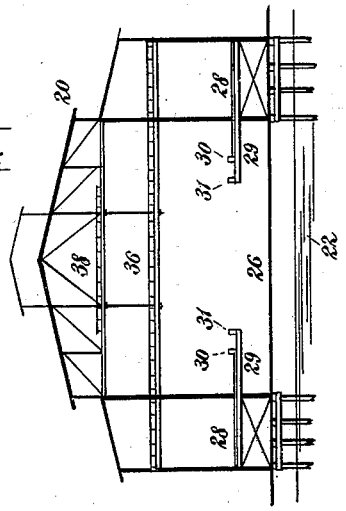
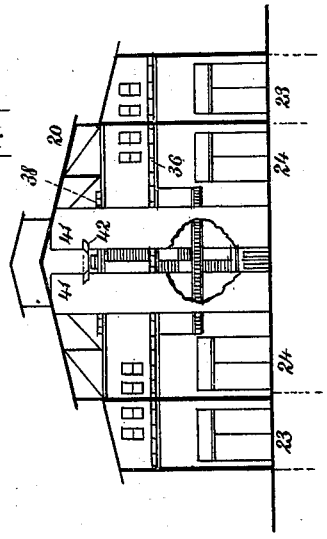


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES McCARTNEY, OF NEW YORK, N. Y.; HELEN McCARTNEY EXECUTRIX OF SAID JAMES McCARTNEY, DECEASED.

MEANS FOR HANDLING REFUSE.

SPECIFICATION forming part of Letters Patent No. 648,279, dated April 24, 1900.

Application filed July 5, 1899. Serial No. 722,817. (No model.)

To all whom it may concern:

Be it known that I, JAMES McCARTNEY, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Means for Handling and Disposing of Refuse, of which the following is a specification.

The invention relates to improved means for handling refuse, and pertains more particularly to means for handling the refuse collected by the carts of the street-cleaning department of a city.

The object of my invention is to provide means whereby all the refuse of a city may be disposed of under cover in accordance with the special character and condition of the various kinds of refuse gathered, and to this end I construct, partly over the water, a building equipped and arranged to receive the various kinds of refuse and dispose of the same, the carts which collect the refuse being permitted to enter through the front of the building and dump their loads therein, and the barges, scows, or other vessels employed to remove that part of the refuse which is to be carried out to sea or elsewhere being permitted to enter the building from the rear or water end of the same to receive such refuse.

In the construction of the refuse-disposal building I provide a "ground floor," as it may be called, or dump of novel construction, and this feature of the construction constitutes a part of my invention and comprises a front floor or platform, inclined runways leading upward and rearward at opposite sides of the building from said platform, horizontal platforms extending rearwardly from said runways, and dumping-boards extending inward toward one another and over the water from said horizontal platforms. The carts containing ashes and garbage unmixed with paper or materials of value will pass upon the said front platform, then up said inclined runways, then upon said horizontal platforms, and then back upon said dumping-boards and dump the refuse directly into the scows, which will lie in the basin intermediate said horizontal platforms and partly below said dumping-boards, in which position the said refuse may pass from the carts directly into said scows. The refuse which contains paper, rags, and other material to be sorted from worthless substances is drawn by the carts upon said front platform, and thence is carried by elevators to the upper floor and delivered upon an endless longitudinally-arranged conveying-belt, alongside of which employees will be located for withdrawing from the passing refuse the paper and other material of value, the worthless material being permitted to remain on the belt and to be delivered by the latter to properly-arranged chutes, by which it will be delivered to furnaces to be consumed. The paper, rags, and like matters separated from the refuse on the traveling belt are thrown into chutes leading to a lower floor, on which will be arranged suitable baling-presses, with the use of which said materials will be baled and when in the condition of bales will be taken to the front end of the building and lowered through shafts to the aforesaid front platform preparatory to final removal.

Among the greatest objections to city-dumps as heretofore constructed are their unsightly character, their incomplete facilities for handling the refuse and keeping the same under control, their exposure of the refuse to public observation, their lack of reasonable cleanliness, the fact that winds are permitted to carry away fine particles of the refuse and distribute odors therefrom, and generally their inadequacy for the necessary work of handling and controlling the refuse. My invention overcomes all of these objections and presents a dump which is entirely under cover and which is adequate in every respect for the work intended.

The invention will be more fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the exterior of the building inclosing and comprising the features of my invention and within which the entire work of handling and controlling the refuse is carried on. Fig. 2 is a front view of same. Fig. 3 is a rear view of same. Fig. 4 is a top plan view of the ground or dumping floor of same. Fig. 5 is a top plan view of the first floor above the ground or dumping floor, and upon this floor will be placed the baling-presses. Fig. 6 is a top plan view of the upper or sorting floor upon which

the traveling conveyer-belt will be arranged. Fig. 7 is a central vertical longitudinal section through the entire building. Fig. 8 is a vertical transverse section of same, partly broken away, on the dotted line 8 8 of Fig. 7; and Fig. 9 is a like section on the dotted line 9 9 of Fig. 7.

In the drawings, 20 denotes the main exterior frame or building, whose front end rests upon the bulkhead 21 and whose main portion extends over the water 22. The front end of the frame or building 20 is supplied with suitable doors 23 23 and 24 24 for the entrance of the carts containing the gathered refuse. The rear end of the building or frame 20 is illustrated in Fig. 3 and, as shown, is formed with the commodious doorway 25 for the entrance and exit of the scows which are to receive the ashes and like material and carry the same to sea or other proper discharging-place.

The lower or dumping floor comprises a portion of my invention, and it is shown in Fig. 4 and comprises the front platform 26, the inclined runways 27 27, extending upwardly and rearwardly from the end portions of said platform, the horizontal platforms 28 28, extending rearwardly from the upper ends of said inclined runways 27, and the dumping-boards 29 29, extending inward toward one another from the said horizontal platforms 28. The facing ends of the dumping-boards 29 are each provided with the dumping-rail 30 and guard-rail 31, these rails being separated by a space 32, through which the material passes from the carts into the scows. The lower or dumping floor is separated from end to end, except at the front platform 26, and between the two sides of said dumping-floor is formed the commodious space or basin 33, into which the scows may pass or be drawn by a tug-boat or other power. The horizontal platforms 28 and dumping-boards 29 are at the rear portion of the building, and said dumping-boards 29 extend partly over the basin 33 in order that the scows entering said basin may pass partly below the said dumping-boards in order that said scows may receive the refuse at about their middle portions. Intermediate the dumping-boards 29 and the front platform 26 the basin 33 is left unobstructed, so as to accommodate several barges, if desired, or other character of vessels.

In explanation of the operation or use of the dumping-floor (shown in Fig. 4) I would say that when it is found that the contents of the carts contain ashes or other material which does not require sorting the said carts will enter the building through the doors 23 and pass over the front platform 26 and thence up the inclined runways 27 to the horizontal platforms 28, where the said carts will back around against the dumping-rails 30 of the dumping-boards 29 and at once dump their entire loads into the scows which will then be in position partly below the said dumping-boards. The material from the carts will pass through the space 32 formed intermediate the guard-rails 31 and dumping-rails 30, and the scows after having received their load will be pulled out from the basin 33 and pass away from the building or frame 20 through the doorway 25. The guard-rails 31 will serve to check the carts when backing upon the dumping-boards 29 should from any cause—such as the accumulation of ashes, for instance, on the dumping-boards—the wheels of the cart ascend the dumping-rails 30. I regard the dumping-floor (illustrated in Fig. 4) as of great importance, since its use insures the rapid, convenient, and effective disposal of the ashes and like refuse, the convenient and rapid handling of the carts, and the convenient handling of the scows or other vessels by which the ashes and like refuse are removed. It is important also that the dumping-floor is inclosed by the frame or building 20, since thereby the dump is prevented from being obnoxious to its surroundings.

The lower or dumping floor is continued rearward below the horizontal platforms 28 by the platforms 34 34, which afford space for workmen, for the men connected with the scows which are to be handled and loaded, and also for the furnaces 35 35, whose purpose will appear hereinafter.

The floor above the ground or dumping floor is indicated by the numeral 36, and it covers over the basin 33 and is known as the "baling-floor," a top plan of which is illustrated in Fig. 5, in which the numeral 37 denotes the baling-presses of ordinary form, which will be used for baling paper, rags, and other material of value separated from the refuse which is not taken directly to the dumping-boards 29 of the lower floor.

The top floor is designated by the numeral 38 and is shown in plan view in Fig. 6. The floor 38 is termed the "sorting-floor" and is supplied with the longitudinal endless conveyer-belt 39 and the series of chutes 40, the latter being disposed at regular intervals along the opposite sides of said conveyer-belt 39 and extending downward through the floor 38 in order that the attendant may drop the paper, rags, and like material taken from the belt 39 down through the chutes 40 and to the baling-presses 37, located on the floor 36.

The gathered refuse containing paper, rags, and other material of value will preferably be taken through the doors 24 24 at the front end of the building 20 and dumped upon the front platform 26 adjacent to the elevators 41 41, by which it will be elevated to the top floor 38 and there discharged into the receiving hopper or trough 42 at the front end of the conveyer-belt 39, large or encumbersome objects or articles being at once removed, so as not to pass upon the conveyer-belt 39. The material will be fed from the hopper or trough 42 upon the conveyer-belt 39, and a constant layer of the same will be carried rearward by said belt 39 and between

rows of men located at the opposite edges of the belt, who will during the travel of the belt remove from the refuse thereon the paper, rags, and other material of value and drop the same down through the chutes 40 to the baling-presses 37 on the floor 36, and certain of the men on the sorting-floor 38 will remove the paper, others the rags, and others other classes of material, and each man will drop the refuse through the proper chutes 40, so that certain of the baling-presses 37 will be confined to baling paper, while other presses will be used for baling rags and others for other materials. The refuse finally left upon the conveyer-belt 39 will be of no value and of a character recommending its cremation, and this material will be carried into the upper end of the hopper 43, through which it will pass into the discharging spouts or chutes 44, leading downward to the furnaces 35 on the platforms 34, by which the said waste material will be consumed and the ashes of which will be taken to the dumping-boards 29 and discharged finally into the scows by which the ashes and like material are removed. In order that the material from the rear end of the conveyer-belt 39 may freely pass to the furnaces 35, I provide a suction-fan 45, which will operate to draw the material into the hopper 43 and facilitate its discharge downward through the discharge pipes or chutes 44 to the furnaces 35. The upper floor 38 is thus a sorting-floor and enables the saving of paper, rags, and like material of value from the gathered refuse. The bales of paper, rags, and like material are formed on the baling-floor 36, and said bales at the proper time are lowered through the vertical shafts or hoistways 46 to the front platform 26, whence they are removed. Thus within the one building or frame 20 the entire refuse of the city can be handled in an efficient manner without detriment to the surrounding neighborhood and with the greatest economy to the city.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A refuse-dump comprising the upwardly-inclined runways, the horizontal platforms leading from the upper ends thereof, and the dumping-boards extending inward over the water from said platforms and having at their ends the dumping-rail and guard-rail between which the refuse from the carts may directly pass when said carts are dumped, said dumping-boards being at a sufficient elevation to permit the scows which are to receive the refuse to lie partly below them; substantially as set forth.

2. A refuse-dump comprising the upwardly-inclined runways, the horizontal platforms leading from the upper ends thereof, and the dumping-boards extending inward over the water from said platforms and having at their ends the dumping-rail and guard-rail between which the refuse from the carts may directly pass when said carts are dumped, said dumping-boards being at a sufficient elevation to permit the scows which are to receive the refuse to lie partly below them, and the whole of said structure being inclosed by a frame or building having doors leading to said runways and being open at its rear end between said horizontal platforms; substantially as set forth.

3. A refuse-dump comprising the front platform, the upwardly-inclined runway, the horizontal platform leading from the upper end of said runway, and the dumping-board extending inward over the water from said platform and having at its end the two rails between which the refuse may descend when the carts are dumped, said dumping-board being at a sufficient elevation to permit the scows which are to receive the refuse, to lie partly below them, and the whole of said structure being inclosed by a frame or building having a door leading to said front platform and a rear opening to admit the said scows; substantially as set forth.

4. In a refuse-disposal dump, the front platform, the inclined runways leading upward therefrom, the horizontal platforms leading onward from said runways, and the dumping-boards extending inward toward one another over the water and at a sufficient elevation to permit the scows to lie partly below them, combined with means for elevating refuse from said front platform to the upper floor, the endless conveying-belt to receive said refuse from said elevator, and a chute for directing the waste products from said belt to means for their disposal, the whole of said structure being inclosed by a frame or building having front doors to admit the carts and a rear opening over the water to admit the scows; substantially as set forth.

5. In a refuse-disposal dump, the front platform, the inclined runways leading upward therefrom, the horizontal platforms leading onward from said runways, and the dumping-boards extending inward toward one another over the water and at a sufficient elevation to permit the scows to lie partly below them, combined with means for elevating refuse from said front platform to the upper floor, the endless conveying-belt to receive said refuse from said elevator, the chutes leading downward from the discharge end of said belt to furnaces for consuming the waste products permitted to remain on said belt during its travel, the whole of said structure being inclosed by a frame or building having front doors to admit the carts and a rear opening over the water to admit the scows; substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 29th day of June, A. D. 1899.

JAMES McCARTNEY.

Witnesses:
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E. JOS. BELKNAP.